

Supplemental Tables and Figures

Supplemental Table S1. Table of environmental conditions while plants were in growth chambers. Each row corresponds to one of the chambers at either day or night.

Temperature (Temp) was measured in °C, Relative Humidity (RH) was measured in percent, Carbon dioxide concentration [CO₂] was measured in ppm, photosynthetically active radiation (PAR) was measured in $\mu\text{mol m}^{-2} \text{s}^{-1}$. Each environmental condition within the table has an average \pm the Standard Error.

Chamber	Time	Temp (°C)	RH (%)	[CO ₂] (ppm)	PAR ($\mu\text{mol m}^{-2} \text{s}^{-1}$)
2	Day	24.7 \pm 0.001	52.9 \pm 0.01	422.8 \pm 0.06	774.7 \pm 0.169
2	Night	17.05 \pm 8.2	84.5 \pm 0.002	441.5 \pm 0.054	13.35 \pm 0.004
3	Day	24.8 \pm 0.001	51.0 \pm 0.01	451.5 \pm 0.06	773.6 \pm 0.17
3	Night	16.9 \pm 4.57	83.7 \pm 0.007	471.4 \pm 0.056	12.09 \pm 0.010

Supplemental Table S2. Pre-dawn water potential at time of burn, fuel load, and average seedling Fire Radiative Energy Dosage (FRE).

Burn Treatment	Sample size	Water potential at time of burn (MPa)	Fuel loading (kg m⁻²)	Average seedling FRE (MJ m⁻²)
Control (C)	3	No burn	No burn	No burn
Dry down curve (DD)	5	No burn	No burn	No burn
Low fuel load (L)	9	-0.23	0.24	0.71
Low fuel load + drought (LD)	11	-1.25	0.24	0.70
Medium fuel load (M)	19	-0.18	0.49	3.0
Medium fuel load + drought (MD)	10	-1.66	0.49	3.7
High fuel load (H)	10	-0.21	0.99	4.7
High fuel load + drought (HD)	14	-1.58	0.99	4.9

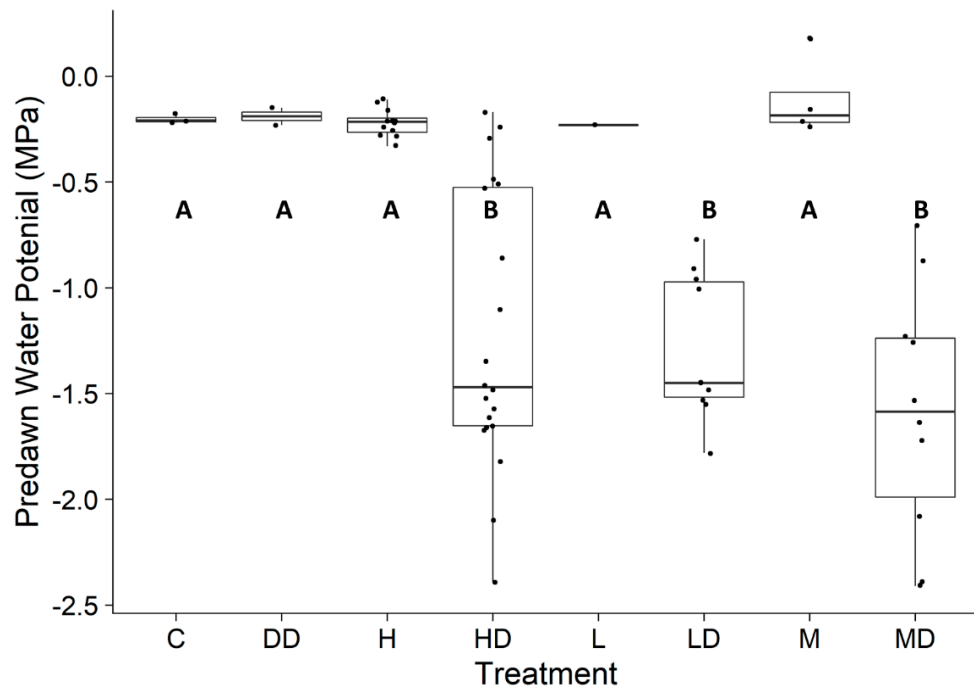


Figure S1. Pre-dawn water potentials at time of burn. Letters indicate significance between groups at $\alpha < 0.05$ using TukeyHSD *post hoc* test. Treatment acronyms are control (C), dry down curve (DD), low fuel loading (L), low fuel loading + drought (LD), medium fuel loading (M), medium fuel loading + drought (MD), high fuel loading (H), high fuel loading + drought (HD).

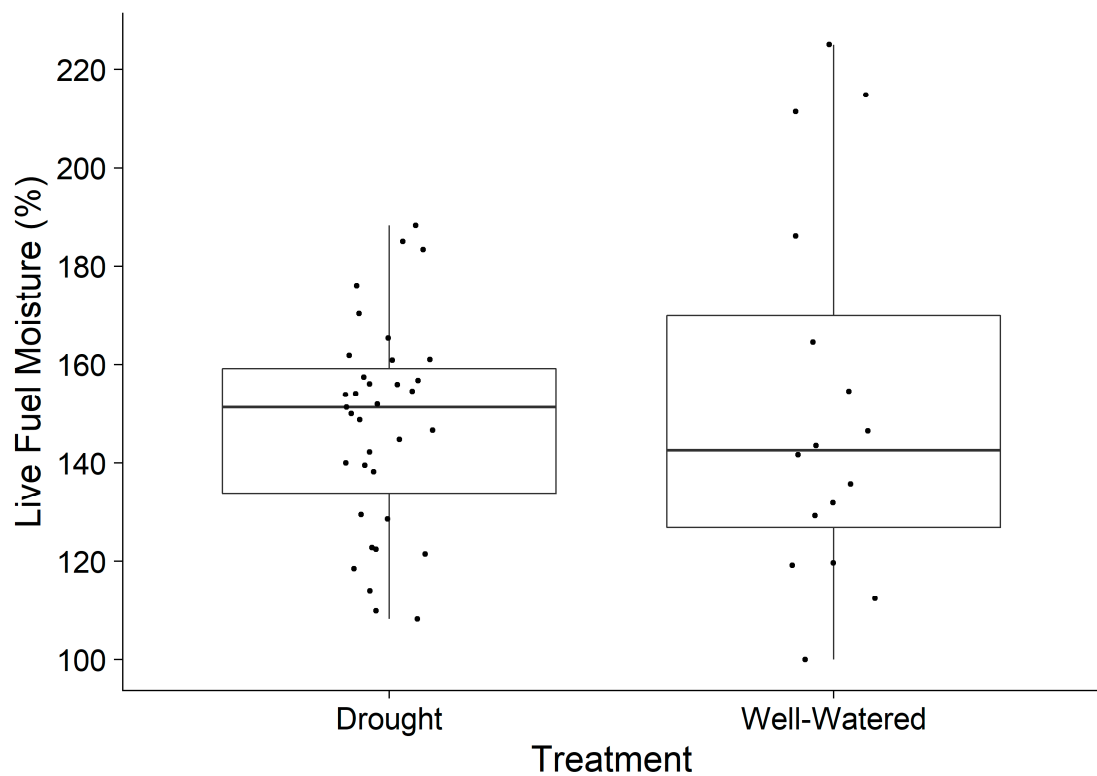


Figure S2. Comparison of seedling live fuel moisture of seedlings at time of burn between drought and well-watered treatment groups. Live Fuel Moisture (%) between drought and well-watered seedlings was not statistically different ($n = 49$, $t = 0.44$, $P = 0.65$). The bottom and top of each box represents the 1st and 3rd quartile ranges, with lines extending up and down to $1.5 \times \text{IQR}$. Horizontal lines within each box are the median. Horizontal scatter of points within a treatment are jittered as to not appear on top of each other.

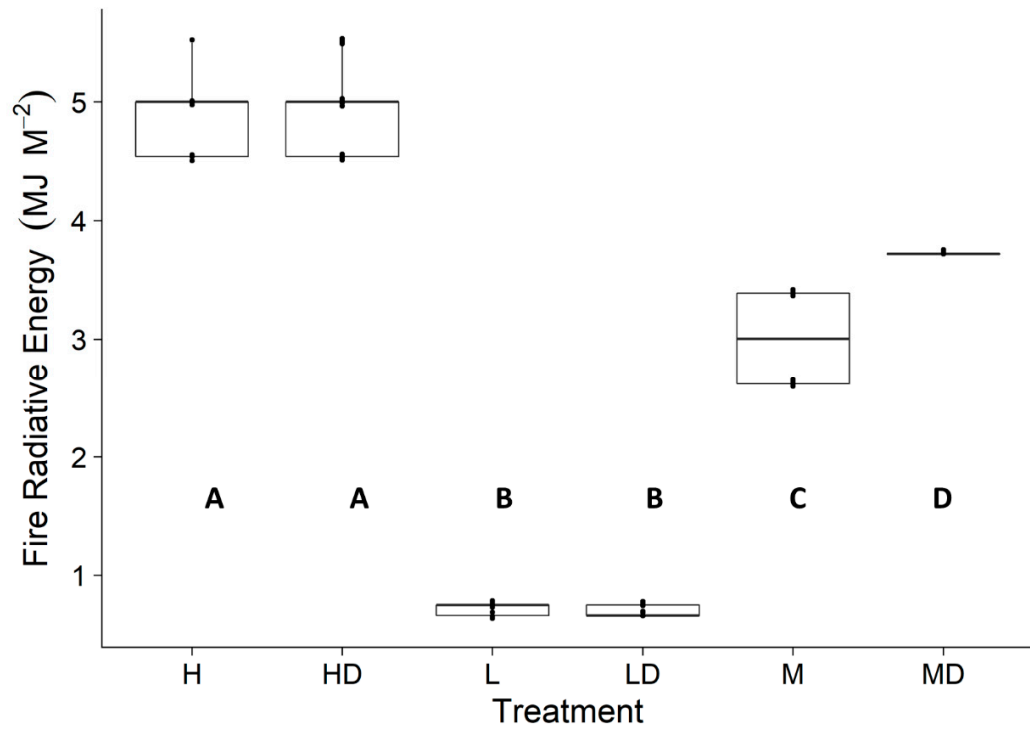


Figure S3. Fire radiative energy densities of seedlings by treatment group. The bottom and top of each box represents the 1st and 3rd quartile ranges, with lines extending up and down to 1.5*IQR. Horizontal lines within each box are the median. Treatment acronyms are low fuel loading (L), low fuel loading + drought (LD), medium fuel loading (M), medium fuel loading + drought (MD), high fuel loading (H), high fuel loading + drought (HD). Letters above treatment (A-D) indicate significant differences ($\alpha < 0.05$) using TukeyHSD *post hoc* test.

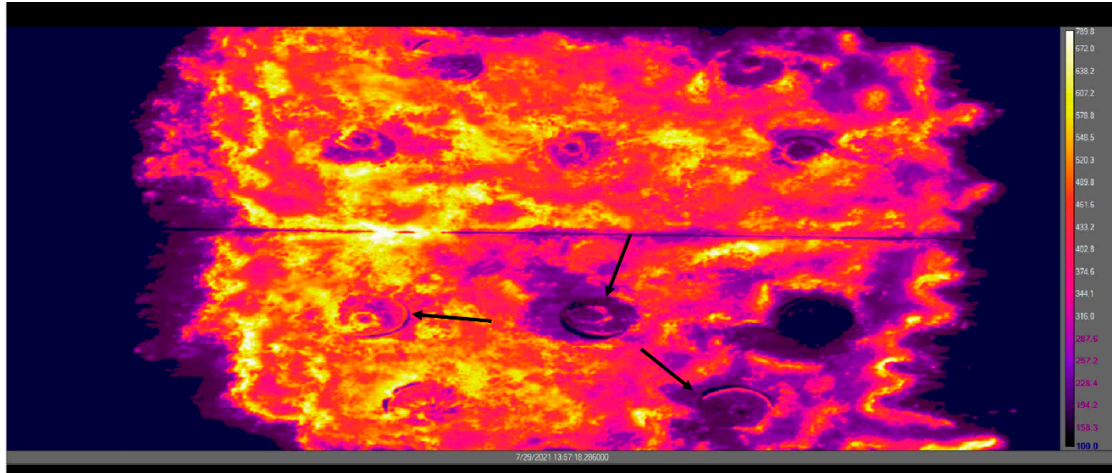


Figure S4. Image of *P. palustris* seedlings during a burn of the highest fuel load. Note the ring of cooler temperatures surrounding each plant pot where there is a slight gap between the pot and plywood platform. (arrows) The cooler temperatures horizontally across the middle of the image is where two pieces of plywood platform met but did not seal perfectly allowing air from below to rise.